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Julie
met a friend before
but...

Medical Education
and
Payment for Health Care Services*

by

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Mies van der Rohe, one of the fathers of modern architecture, used the phrase "less is more" to describe his approach to designing buildings. The same phrase has been used to describe the music of Igor Stravinsky and the choreography of George Balanchine. In each case, the aesthetic is the same. By stripping away the excessive and unnecessary ornamentation of an earlier period, each was able to reach the essence of his art. The result was a sparer, leaner, more economical creation that communicated more directly and more fundamentally with the user, listener, or viewer.

This paper is concerned with a more prosaic topic than architecture, music, or choreography. How will changes in the way we pay for health care services affect medical education institutions, medical schools and teaching hospitals? Thus, the focal point of the paper will be money. Although deans, administrators, and accountants are not among the nine muses, I believe that one of the challenges facing medical educators and their institutions will be how to achieve "less is more."

A period of substantial growth in students and budgets is coming to a close, if not already ended. This was a time of "more and more." While expansion may be chaotic, it generally does not require the hard choices that go with contraction. My guess is that the next few years may very well see a shrinking of the medical education sector. The immediate problem will be one of "less is less." Meeting the challenges of the new fiscal realities of the 1980s will not be easy. Whether you succeed in converting "less is less" into

"less is more" will depend on innovation, cooperation, and leadership among medical schools and teaching hospitals.

The first question I would like to discuss is who pays for medical care? How is total medical care spending distributed among private insurers, governments, and patients' direct expenses? How have these shares changed over time? How will current and potential policy changes influence each party's share of the total?

A companion to the question of who pays is how do they pay for medical care. What are the basic approaches to physician and hospital reimbursement? What changes are likely to occur? What will be the effects on physicians and hospitals generally?

The impact of these changes on medical schools and teaching hospitals will depend on how reliant their educational programs are on health care reimbursements. Therefore, what are medical schools' and teaching hospitals' revenue sources? How have they changed in the past? What is likely to happen in the next few years?

Given the possible changes in revenue sources, what courses of action are medical schools and teaching hospitals likely to follow? What will happen to medical school tuitions? Will applications to medical schools be affected? What will be the consequences of financing changes for residents' stipends and for the size of graduate medical education programs?

Finally, what strategies can medical schools and teaching hospitals follow to convert "less is less" into "less is more"? While it would be highly presumptuous of me to claim to have the answers to this question, I would like to conclude with some suggestions for possible courses of action. As I implied above, these suggestions, if implemented, would require medical education institutions to assume greater leadership in issues of health care

financing and to risk innovation in seeking ways to solve both the health care and the medical education financing problems.

One caveat before beginning. Although my topic is health care financing, and although I am a card-carrying economist with a green eye-shade to prove it, I do not presume that money is the only thing that matters or that it is even the most important thing in medical education. Either of these presumptions is clearly foolish and ignores the other papers in this volume. The assumption I make is more modest, namely, money is not irrelevant to the decisions and choices medical schools and teaching hospitals must make. Although almost all such institutions are nonprofit and have goals other than maximizing net income, they cannot repeal the existence of budget constraints. Thus, health care financing changes need to be considered in planning for educating tomorrow's health professionals.

Who Pays for Health Care?

In 1965, the last full year before the implementation of the Medicare and Medicaid programs, payments for health care services were split almost evenly between patients' direct payments, which made up 44.6 percent of the total, and payments by so-called third parties, private insurance and philanthropy, the federal government, and state and local governments. The federal government had the smallest share, 11.3 percent, of the major participants.

Fifteen years later, the picture is dramatically different. The federal government, now the largest source of funds for health services delivery, pays for almost 30 percent of the care provided. Almost all of this growth has been a substitution of federal dollars for patients' direct expenses. Patients are now directly responsible for just over 25 percent of the total bill. The shares paid by private insurance and philanthropy, and state and local governments have remained about the same.

The primary engines generating this shift in payment responsibilities have been the federal Medicare and Medicaid programs. Of course, these programs have done much more than simply shuffle dollars. They've also been the driving force behind a major expansion in access to and the use of health services. In 1965, per capita health care spending was \$181 and health care absorbed 6 percent of the gross national product. After adjusting for inflation, per capita health care spending was \$332 and the share of GNP devoted to health care was 9.4 percent in 1980. In other words, by 1980 the average person was consuming almost twice as much medical care as in 1965 and the country as a whole was allocating 56 percent more of its resources to the production of health care than it was in 1965. (Table 1 summarizes these changes.)

Many view these trends as a positive factor in the health and welfare of the nation. Others feel that too much is being spent for medical care in general and that the federal government in particular is spending too much. The argument is made that the federal government is too centralized and too far removed from the actual delivery of services to make prudent judgements about how much and what kinds of care should be provided.

Whatever the merits of these arguments and rationales, the federal government's message, backed up by actions in the budget for the 1982 fiscal year is clear. Odds are that it is going to spend less for medical care, or at least not increase its health care spending at as fast a rate as in the past. The most dramatic cuts were made in the Medicaid program. Among the provisions in the Omnibus Reconciliation Act of 1981 (P.L. 97-35) are the following:

- o with some exceptions, reductions in the Medicaid payments states would otherwise be entitled to receive from the federal government by 3 percent in fiscal 1982, 4 percent in fiscal 1983 and 4.5 percent in fiscal 1984;

Table 1

Percentage Distribution of Health Care Expenses
by Source of Payment, 1965 and 1980^a

<u>Source of Payment</u>	<u>1965</u>	<u>1980</u>
Patients	44.6%	26.7%
Private Insurance, Philanthropy	31.1	29.5
Federal Government	11.3	29.8
(Medicare)		(16.2)
(Medicaid)		(6.7)
(Other)		(6.9)
State and Local Governments	13.6	13.7
(Medicaid)		(5.1)
(Other)		(8.6)

^aExcludes dentists' services, research, and construction of medical facilities. Includes prepayment, administration, and government public health activities.

Source: R. Gibson and D. Waldo, "National Health Expenditures, 1980," Health Care Financing Review (September 1981), pp. 20, 30, 42.

- o more flexibility for states to limit coverage of the medically needy;
- o a repeal of the requirement that Medicaid programs reimburse hospitals based on the determination of reasonable cost used by Medicare, and the insertion of the looser requirement that Medicaid reimburse hospitals to ensure that Medicaid patients have "reasonable access to services of adequate quality;" and
- o a modification of the provision guaranteeing "freedom of choice" for Medicaid recipients that permits states to use competitive bidding, exclude high cost or low quality providers, or limit Medicaid recipients to the use of selected providers.

Changes in the Medicare program were not as dramatic, but were all in the direction of either increasing beneficiaries' share of the bill or reducing payments to providers. The latter included

- o a reduction in the nursing differential from 8.5 to 5 percent above the average routine nursing costs;
- o a directive to issue regulations limiting charges for outpatient services; and
- o a ceiling on the reimbursement of hospital inpatient costs at 108 percent of the average cost of providing similar services at a comparable group of hospitals.

The third area affected by the reconciliation bill was the large group of categorical grant programs supported by the Department of Health and Human Services. A number of these were grouped into four so-called block grants, with funding authorizations set at roughly 75 percent of what they would have been as separate categorical grants. Of the remaining categorical programs, health education support is the largest set of grants. These were slated for moderate increases over the next two years, 9 and 4.5 percent respectively. However, the 1982 authorization is less than half of the \$478 million actually spent in fiscal 1980. All other categorical programs as a group are budgeted for substantial reductions, almost \$340 million by fiscal 1984. Table 2

summarizes the authorizations for the grant programs in the reconciliation bill.

Overall, the message seems clear. Less is less.

The key question with regard to state and local governments is whether they will compensate for cuts made in federal health spending. Unfortunately, many states and cities are caught in financial squeezes of their own. The current recession plus either legal or informal limits on taxes have put sharp downward pressure on revenues. At the same time, high unemployment rates are pushing up demands for unemployment compensation, welfare, and general assistance. Since most state and local governments are legally prohibited from running deficits, the only major option open in many cases is to reduce spending. Medicaid, because it is such a large share of the budget in many states, is one of the primary targets for spending reductions. The actual changes being implemented or proposed across states are too many to list. However, a paraphrase of a New York Times survey seems to accurately reflect current trends. States that would like to compensate for federal cuts can't afford to; those that can afford to, don't want to.¹

Changes in the private insurance sector are numerous, diverse, and decentralized. It is fairly clear, however, that the trend is toward less insurance. First, the increase in unemployment is causing many people to lose insurance coverage altogether. Whether this is a short-run or long-run phenomenon still remains to be seen. Second, in order to save labor costs and save jobs, employers and employees are opting for less generous insurance coverage--benefits are being eliminated or limited, coinsurance rates are being raised, and deductibles are being increased. Probably the most

1. R. Pear, "Few States Seek to Ease Effects of Cuts for Poor," The New York Times, Jan. 12, 1982, p. 1.

Table 2

Health Grant Program Authorizations
from P.L. 97-35 for Fiscal Years 1982-84
(in millions of dollars)

	<u>1982</u>	<u>1983</u>	<u>1984</u>
Health Manpower Programs	\$ 218.8	\$ 238.6	\$ 249.3
All Other Categorical Grants	820.1	651.1	482.6
Block Grants			
Preventive health, health services	95.0	96.5	98.5
Alcohol/drug abuse, mental health services	491.0	511.0	532.0
Primary care	280.0	302.5	327.0
Maternal, child health	<u>373.0</u>	<u>373.0</u>	<u>373.0</u>
Total, All Grants	\$2,277.9	\$2,172.7	\$2,062.4

most striking example of this type of action is the Federal Employees Health Benefits plan. In order to reduce the governments' share of employees' health insurance premium costs, the Office of Personnel Management has mandated a sweeping set of changes. For example, the Government Employees Health Association, one of the private insurance plan options available to federal employees, increased the personal deductible from \$80 to \$200, the family deductible from \$160 to \$600, and coinsurance rates from 0-5 percent (depending on the service) to 20 percent on all services, including inpatient hospital room charges and all ancillary services.

The third trend that is rapidly picking up steam in the private insurance market is the development of a number of innovative approaches to health care financing and health care delivery. Although the structures of these initiatives vary, they share a common goal--reducing health care expenditures. Some have been around for a while--health maintenance organizations (HMOs), individual practice associations (IPAs), and health care foundations. Others, such as business/labor coalitions, primary care networks, case management plans, preferred provider plans, and stay-well or wellness plans are fairly new to the scene. By changing either patients' behavior, providers' behavior, or simply negotiating lower rates, these schemes aim to economize on health care costs, with one of the primary targets being hospital admissions and lengths of stay.

The general trend and primary consequence of changes in third-party payers' policies, then, appears to be a shift of a bigger share of the cost of medical care back to the patient. Although many may think of the measures I've described as draconian, it is unlikely that the clock will be turned back to the pre-Medicare/Medicaid situation described in Table 1. What does seem clear, both currently and for the near future at least, is that the health

sector will be confronted with strong pressures to reduce costs and expenditures.

How Is Medical Care Paid For?

The previous section described changes in insurers' policies in fairly broad terms, that is, numbers of people covered by insurance, benefits included in insurance plans, and the desire to pay less for care. One of the more subtle, though important and ubiquitous aspects of health care financing is the actual method of payment, typically referred to as hospital and physician reimbursement. Reimbursement is clearly one of the most arcane and complex processes ever invented. A full presentation and analysis would require many more pages than are available here. (The Medicare and Medicaid Guide devotes more than 1,000 pages to reimbursement.) At the risk of being accused of oversimplification, I would like to boil all of the details down to the two basic approaches summarized in Table 3.

Open-ended reimbursement consists of usual-customary-reasonable and customary-prevailing-reasonable charge methods for physicians' services and reasonable costs, reasonable charge, or percentage of charge or cost methods for hospitals' services. Of course, many if not most physicians and hospitals may consider these systems unreasonable, unusual, and unfair. Almost all variations of these systems involve screening charges or costs, basing current payments on a prior period's billings or expenses, and an inordinate amount of haggling over what's included, and what's reasonable.

Nevertheless, the key feature of these systems is that the payers say, in effect, "We pay what you charge or spend, or some percentage of that." Consequently, these systems have a built in dynamic that is controlled primarily by providers. Increased charges or expenses lead to increased payments, albeit not necessarily dollar for dollar.

Table 3

Reimbursement Methods

A. Open-Ended Reimbursement

Physicians: Usual-Customary-Reasonable,
Customary-Prevailing-Reasonable

Hospitals: Reasonable Costs,
Reasonable Charges,
Percentage of Costs or Charges --

B. Capped Reimbursement

Physicians: Fee Schedules,
Maximum Allowable Fees,
Relative Value Schedules and Conversion Factors

Hospitals: Rate Setting,
Prospective Reimbursement,
Global Budgeting,
Diagnostic-Related-Groups Reimbursement

Capped reimbursement, on the other hand, might be characterized by payers saying "You get what we're willing to pay." With fee schedules, maximum allowable fees, and relative value schedule and conversion factor systems, the maximum, if not the actual amount the insurer pays the physician is predetermined and cannot be changed without explicit agreement by the insurer. Physicians increasing their charges, either individually or collectively, will have no effect on the amounts they're paid. Similarly, the key characteristic of most rate setting, prospective reimbursement, budgeting, etc. systems for hospital reimbursement is that the amount the insurer will pay is in some way predetermined and usually also limited. Clearly, increases in costs puts pressure on rate setters to increase rates. But there is no automatic pass-through as in reasonable cost or reasonable charge systems.

The dichotomy between open-ended and capped reimbursement systems is undoubtedly overdrawn. Reasonable cost/charge systems can be constrained and fee schedules can be altered. The point, however, is that capped reimbursement is typically less generous than open ended reimbursement.

Data on physicians' fees paid by the Medicaid program illustrate this. In 1979, 25 Medicaid programs used a customary-prevailing-reasonable (CPR) method to pay physicians and 25 used either fee schedules (FS) or relative value schedule + conversion factors (RVS+CF).² Medicare employs the usual-customary-reasonable (UCR) method nationwide, though it is implemented separately in each Medicare locality.³ Because Medicare uses a single method nationwide, comparing average fees paid by Medicaid in CPR and FS/RVS+CF

2. The RVS+CF approach starts with a fixed schedule of numerical values among procedures, that is, their relative values, and then applies a dollar multiplier, e.g., 50 cents per relative value unit.

3. UCR and CPR systems are conceptually equivalent even though the terminology differs between Medicare and Medicaid. Medicare localities are states or parts of states which serve as administrative units.

jurisdictions to average Medicare fees in those same areas should indicate the relative generosity of the two approaches.

As can be seen in the upper portion of Table 4, in CPR jurisdictions Medicaid fees are only slightly lower than Medicare fees, 97 percent of general practitioners' fees and 92 percent of specialists' fees. In FS and RVS+CF jurisdictions, Medicaid pays only 70 percent of what Medicare pays general practitioners, and 60 percent of Medicare fees for specialists. The lower portion of the table shows similar ratios in selected FS and RVS+CF Medicaid programs. The six states listed accounted for almost 50 percent of total Medicaid expenditures in fiscal 1979. New York, the largest Medicaid program, is the least generous, paying only 25 cents for every dollar paid by Medicare.

The impact of capped reimbursement approaches on hospitals is a little more difficult to illustrate because of the diversity of the alternative methods. Early research tended to show little or no impact on hospital costs. More recent studies, however, indicate that once these alternative systems go through a maturation process, they do have a significant impact on hospitals' revenues and costs. Estimates of the impact suggest that a mature, mandatory program (one that has been in place for more than 3 years) can result in a reduction of from 7 to 20 percent in cost per day.⁴ In a study underway at The Urban Institute, we have estimated that if all of a teaching hospital's patient revenues were subject to mature, mandatory rate setting,

4. F. Sloan, "Regulation and Hospital Costs," Review of Economics and Statistics (January 1982), p. 484.

Table 4

Average Ratio of Medicaid to
Medicare Fees, 1979^a

	Fee Ratios	
	<u>General Practitioners</u>	<u>Specialists</u>
CPR States (N=25)	0.97	0.92
Fee Schedule and RVS + CF States (N=25)	0.70	0.60
Selected Fee Schedule and RVS + CFS States		
New York	0.42	0.24
Pennsylvania	0.45	0.28
Missouri	0.51	0.57
Illinois	0.60	0.61
Massachusetts	0.67	0.56
California	0.69	0.54

Source: J. Holahan, "A Comparison of Medicaid and Medicare Physician Reimbursement Rates," Urban Institute Working Paper 1306-02-04, March 1982.

Note: ^aUnweighted average of state ratios.

revenue per patient day would be 16 percent lower than if no revenues were subject to rate setting.⁵

Figure 1 illustrates the potential impact of mandatory hospital rate setting. Using data from the American Hospital Association's National Hospital Panel Survey, total revenue per patient day in short-term general hospitals grew at an annual compound rate of 14.8 percent between 1975 and 1980, growing from \$153 per day to \$305 per day. Extrapolating this rate forward to 1985 results in an estimate of \$607 per day. If all revenues were subject to mandatory rate setting, the estimates of revenue per day would be between 7 and 20 percent lower.

In the absence of voluntary constraint, it seems increasingly likely that more and more insurers, both private and public will move from open-ended to some form of capped reimbursement. Less is less.

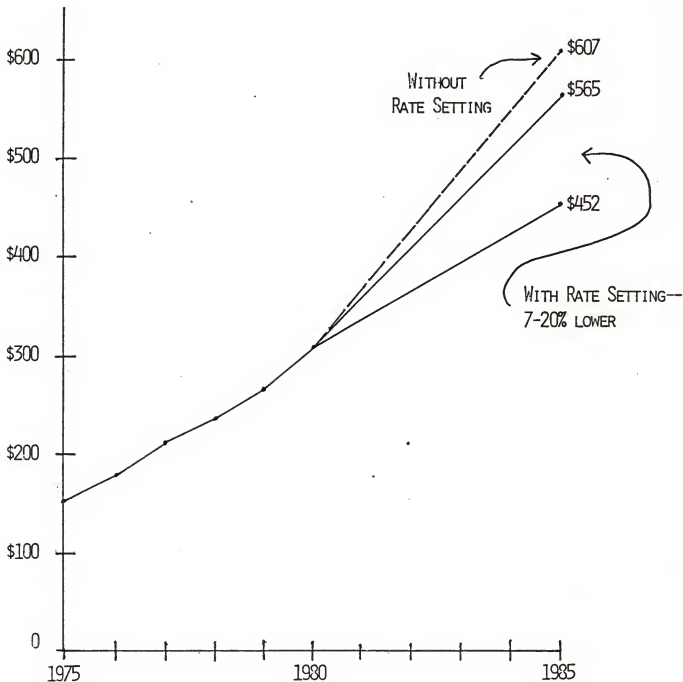
How Dependent Are Medical Education
Institutions on Patient Care Revenue?

Changes in health care financing will affect medical schools and teaching hospitals primarily through their impact on these institutions' revenues. Although there's a natural inclination to focus only on revenues and costs associated with educational activities, one should resist this inclination. It is essential that the institution's overall fiscal situation be considered. Even though a large chunk of an institution's income may be earmarked, most of the budget is fungible. Depending on priorities, a revenue loss from one particular source of income may lead to compensating adjustments in other, seemingly unrelated activities.

5. J. Hadley, R. Lee, and C. Carlson, "Teaching Hospitals' Demand for Residents," Urban Institute Working Paper No. 1302-9, forthcoming, 1982.

FIGURE 1

REVENUE PER PATIENT DAY
(ACTUAL 1975-1980, PROJECTED 1981-1985)



This section presents information on medical schools' and teaching hospitals' sources of revenue. How have they changed over time? Do sources vary dramatically between public and private institutions? Issues associated with tuition levels and stipend funding will be treated tangentially, because they are tangential.

Table 5 reports data on the percentage distribution of medical schools' sources of revenue at two points in time, 1967-68 and 1979-80. Separate data are reported for public and private medical schools. Not surprisingly, public schools are far more dependent on revenues from state and local governments than are private schools. Other differences between public and private schools are far less dramatic.

Over time, probably the single most important trend affecting medical schools' revenues has been the decline in sponsored federal support. In 1967-68 sponsored federal funds accounted for about half of all medical schools' funds. By 1979-80, this source made up less than 25 percent of public schools' revenues and about 35 percent of private schools' revenues. These cuts have hit teaching grants proportionately harder than other grants. In both public and private schools, teaching grants accounted for less than 5 percent of revenues in 1979-80, down by about two-thirds from the years of peak federal support. In future years, federal teaching support will be even smaller.

How have medical schools adjusted to declining federal support? First, in spite of all the publicity given to high tuitions, public schools have not increased their dependence on tuitions and fees. It was and remains one of the least important revenue sources for these institutions. Private schools have increased their reliance on tuition and fees, from 5.3 to 8.7 percent of total revenues. Second, public schools have drawn a bigger share of their

Table 5

Percentage Distribution of Medical Schools'
Revenue Sources, by Ownership,
1967-68 and 1979-80

Revenue Source	Public Schools		Private Schools	
	1967-68 (%)	1979-80 (%)	1967-68 (%)	1979-80 (%)
State and Local Governments	26.2	34.8	2.5	3.4
Sponsored Federal Teaching	13.3	4.7	13.0	4.4
Other ^a	35.0	19.6	43.1	30.8
Sponsored Nonfederal ^b	8.8	8.8	16.0	15.7
Tuition and Fees	2.8	2.8	5.3	8.7
Professional Fee Income	5.0	13.7	3.3	17.6
Other Income	<u>8.9</u>	<u>15.6</u> (7.3) ^c	<u>16.9</u>	<u>19.4</u> (9.7) ^c
Total, All Sources ^d	100.0	100.0	100.0	100.0

Sources: Journal of the American Medical Association, "Medical Education Numbers."

- Notes: ^aIncludes research and recovery of indirect costs.
^bIncludes recovery of indirect costs.
^cRevenue from teaching hospitals. Similar data was not available in 1967-68.
^dMay not sum due to rounding.

revenues from state and local governments and other revenue surces, increasing each by about 8 percent. Private schools increased their revenues from these sources only slightly, by a total of 3.4 percent.

The most dramatic change, in both proportional and absolute terms, has been the growth of professional fee income. Income from billings for medical care services provided by faculty accounted for 13.7 percent of public schools' revenues and 17.6 percent of private schools' revenues. If revenues from teaching hospitals, which are included in the Other Income category, are added to professional fee income, then the totals increase to 21 percent for public schools and 27.3 percent for private. Thus, direct and indirect patient care revenues are the second most important source of medical schools' funds after state and local government support at public institutions and sponsored federal funds at private schools.

For teaching hospitals, the key factor, I believe, is not so much changes over time in revenue sources but rather differences across hospitals in both revenues and costs. Table 6 shows revenue sources for hospitals grouped by teaching status and ownership. What is striking is the difference between public teaching hospitals and all other insitutions. Public teaching hospitals are more than twice as dependent as other hospitals on revenues from Medicaid, government appropriations, and other nonpatient care sources. They derive smaller proportions of their revenue from Medicare, Blue Cross/Blue Shield, and commercial insurance and self payment.

Also striking are apparent differences in costs among different types of hospitals. Although a crude measure, differences in expense per admission are suggestive of people's perceptions that teaching hospitals are much more costly than nonteaching hospitals. As the data in Table 7 show, in 1980 the average expense per admission in a hospital that was a member of the Council

Table 6

Percentage Distributions of Hospitals' Revenue Sources,
by Ownership and Teaching Status, 1978

<u>Revenue Source</u>	<u>Teaching^a</u>		<u>Nonteaching</u>	
	<u>Public^b</u> (%)	<u>Private^c</u> (%)	<u>Public</u> (%)	<u>Private</u> (%)
Medicaid	17.9	7.7	7.8	7.3
Medicare	25.4	32.7	33.5	34.9
Blue Cross/Blue Shield	12.8	22.9	16.2	17.8
Commercial Insurance and Self Pay	24.1	29.1	34.3	32.7
Government Appropriations and All Other Sources	<u>19.8</u>	<u>7.6</u>	<u>8.2</u>	<u>7.3</u>
Total, All Sources	100.0	100.0	100.0	100.0

Source: J. Hadley, "Medicaid and Teaching Hospitals: Current Policies and Future Consequences," Urban Institute Working Paper No. 1298-12, October 1981, p. 22.

- Notes: ^aHospitals with at least on AMA-approved residency program.
^bExcludes federal hospitals.
^cExcludes for-profit hospitals.

Table 7

Total Expenses per Admission,
by Teaching Status and Ownership, 1980

	<u>Total Expense per Admission</u>	<u>Average Number of Residents</u>
COTH Members	\$3,203	112.7
Private ^a	3,229	109.4
Public ^b	2,674	179.5
Other Teaching ^c	2,199	15.3
Private	2,225	15.2
Public	1,688	19.6
Nonteaching	1,710	0.6
Private	1,749	0.9
Public	1,436	0.1
All Hospitals	1,841	8.0

Source: American Hospital Association, 1980 Annual Survey of Hospitals.

Notes: ^aExcludes for-profit hospitals.

^bExcludes federal hospitals.

^cHospitals that have at least one AMA-approved residency program but are not members of the Council of Teaching Hospitals (COTH).

of Teaching Hospitals was 87 percent higher than in a nonteaching hospital. Other teaching hospitals were 29 percent more costly than nonteaching hospitals.

These cost differences are dramatic. They also point up a fairly contentious debate between third-party insurers, especially those that use reasonable cost reimbursement, and teaching hospitals over the reimbursement of hospitals' "educational expenses," primarily residents' stipends and teaching physicians' educational salaries. For a variety of reasons, teaching hospitals consider the salaries of residents and teaching physicians to be educational expenses, rather than costs of providing patient care services. In 1978, these expenses were about just under \$2 billion, roughly equal to 5 percent of teaching hospitals' total revenues.⁶ The great majority of these expenses, between 70 and 90 percent, are paid from patient care revenues.⁷

As emphasized earlier, third-party payers, both public and private, face mounting pressures to reduce their costs, and thus the burden on taxpayers and policyholders. Given the apparently dramatic cost differences between teaching and nonteaching hospitals and the designation of stipends and teaching physicians' salaries as educational expenses, the temptation is great to disallow or exclude these expenses from reimbursements for patient care. After all, physicians are the highest paid profession in the country. Why should patients pay for their education?

Unfortunately, appearances are deceiving in this case, and the emotional arguments about who should pay for graduate medical education have made it difficult to see through these appearances. In reality, residents, and to some extent teaching physicians, already pay for most of the costs of graduate

6. J. Hadley and P. Tigue, "Financing Graduate Medical Education: An Update and a Suggestion for Reform," Health Policy and Education, 2(1981).

7. Ibid.

medical education by providing services whose value exceeds their salaries.⁸ This is a difficult point to demonstrate empirically because salaries can be readily observed while the value of the service provided is elusive. However, the conclusion that trainees who receive general skills (as opposed to firm-specific skills) through on-the-job training pay for their own training is a well-established result of economic research.⁹ It follows that that efforts to disallow educational expenses as non-patient-care costs would not be justified. It also follows, however, that hospitals should not be paid more on the basis of teaching status alone.

By the same token, it is fallacious for insurers to think that they would necessarily save money by not paying educational expenses. To illustrate this, assume that by a wave of the wand all physicians were deemed full-fledged, competent medical practitioners upon graduation from medical school and that there were no such things as residency training programs. Unless residents are totally redundant and contribute nothing at all to patient care delivery, hospitals would have to hire other personnel to provide the services currently provided by residents. These personnel would very likely include salaried physicians, nurses, and technicians. Attending physicians would probably make more visits to their patients. These visits would not be billed as hospital costs, but insurers would nevertheless be expected to reimburse physicians directly. The net result is that unreimbursed educational expenses would be replaced by reimbursable patient care expenses. Thus, insurers would

8. R. Feldman and S. Yoder, "A Theoretical Analysis of CME Financing," in J. Hadley, ed., Medical Education Financing. New York: Prodist, 1980.

9. G. Becker, Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Training. New York: Columbia University Press, 1964.

ultimately save very little money, and, according to one estimate of the substitution costs of other personnel for residents, might even pay more.¹⁰

The key to solving the puzzle, of course, is that simple comparisons, as in Table 7, between teaching and nonteaching hospitals are inappropriate. These institutions differ by more than the presence of residents and the existence of educational activities. Teaching hospitals are larger. They are more likely to be in cities, which are generally more costly than suburban and rural areas because wage rates are higher. Most importantly, teaching hospitals, especially COTH members, do not treat the same mix of patients or provide the same mix of services as other hospitals. Clearly, one has to control for differences like these in assessing the impact of educational activities on hospital costs.

A forthcoming study has attempted a controlled comparison of this sort using a variety of hospital data from 1974 and 1977.¹¹ The key features of this study are the use of a case-mix measure, explicit exclusion or imputation of physician costs, and analysis of costs at the departmental as well as hospital-wide level. The basic result is that when other factors, especially case mix, are taken into account, nonphysician cost per adjusted admission is at most 13 percent higher for a COTH member compared to a nonteaching hospital.¹² Other teaching hospitals are 5 percent more costly than nonteaching hospitals. Furthermore, it appears that at least some of the cost difference occurs in nonclinical departments, such as dietary, plant operations, and

10. J. Freymann and J. Springer, "Cost of Hospital-Based Education: The Hartford Hospital Study," *Hospitals* 47 (March 1973), pp. 65-74.

11. F. Sloan, R. Feldman, and B. Steinwald, "Effects of Teaching on Hospital Costs," *Journal of Health Economics* forthcoming.

12. An "adjusted admission" is a weighted average of inpatient admissions and outpatient visits.

housekeeping. It is unlikely that the presence of residents or education per se should have any effect on these types of costs.

What does one conclude from these observations? Changes in health care financing will affect medical schools and teaching hospitals primarily through the consequences for these institutions' total revenues. Changes in the reimbursement of so-called "educational" expenses, while more visible in terms of their apparent impact on training programs, are likely to be relatively trivial compared to overall changes in patient care reimbursements. Similarly, medical schools are likely to be more heavily affected by changes in physician reimbursement methods than by an end of capitation grants.

How Will Medical Schools and Teaching Hospitals Respond
to Changes in Health Care Financing?

The previous section of this paper outlined medical schools' and teaching hospitals' dependence on patient care revenues for their educational activities. The two sections before that described probable changes in insurance and reimbursement. This section will attempt to tie these factors together to focus more specifically on 1) the fiscal pressures medical schools and teaching hospitals are likely to face and 2) possible responses to these pressures in the absence of any major structural reforms in either health care financing or reimbursement.

A major distinguishing feature in institutions' responses will be their ownership. Public and private medical schools are likely to pursue different courses of action that over time may very well narrow some current distinctions between them. Public and private teaching hospitals will also follow different strategies. But the result there may be an even bigger gap in resources and patient mix than currently exists.

All medical schools will find it more difficult to generate professional fee income. Changes in Medicare and Medicaid reimbursement rules, especially a shift toward limits on increases in fees paid physicians, payments to hospital outpatient departments, and payments to hospital-based radiologists and pathologists, will provide one set of revenue constraints. Another source of downward pressure will be increased competition in the privately insured part of the health care market. Competing provider groups such as HMOs and IPAs will attempt to enroll privately-insured people at rates below those that would support faculty practice plan fees. At the same time, insurance organizations and beneficiary groups will seek to negotiate lower rates with teaching hospitals and faculty practice plans through approaches like preferred-provider arrangements and primary care networks. Third, trends in traditional private insurance plans toward higher cost sharing and more limited benefits will make consumers generally more cost conscious. If faculty practice plans charge fees toward the higher end of the spectrum, as seems probable, some patients will choose to seek care from lower cost, office based providers.

Federal grants to medical schools are likely to continue their downward trend, if not in absolute dollars then at least in real dollars adjusted for inflation in the prices and salaries of the goods medical schools buy and the staff they hire. These cuts may be more burdensome to private schools because of their greater dependence on federal funds. The most prestigious and most research-oriented schools may be able to replace lost federal research support with private sector research dollars. For most schools, however, this will be a limited option. Furthermore, even where private money is available it is likely to shift the focus of research activity to more practical and more

marketable areas. Whether this is good or bad is an issue beyond the scope of this paper, but one which clearly needs careful examination.

Lastly, many state governments are going to be reexamining their support for medical education. Faced by their own budget crises and the need to maintain basic human and public services, appropriations for state-owned medical schools may receive lower priority than in the past. These pressures will be especially strong in those states with the most difficult economic conditions. Many of these states, particularly in the northeast and north central regions of the country, are also losing population. The rapid growth in the number of physicians over the last few years coupled with projected population declines will make it difficult to justify additional support for medical schools. States in the south and southwest, on the other hand, have reasonably healthy economies and are gaining population. Medical school support in these states is likely to grow. To a large extent, state support of medical education will parallel broader trends in the redistributions of population and economic activity.

How are medical schools likely to respond to these pressures? Raising tuitions is the action that receives the most publicity. As noted earlier, private medical schools have already increased their dependence on income from tuitions and fees. Public schools have not, nor have tuition levels been raised to the range typical of most private schools. For example, in 1979, 93 percent of students at public schools paid less than \$4,000 in tuition; 1 percent paid between \$6,000 and \$8,000; and 1 student paid more than \$10,000.¹³ In contrast, 10 percent of students at private medical schools

13. R. Lee and C. Carlson, "The Effects of Reducing Federal Aid to Undergraduate Medical Education," Urban Institute Working Paper No. 1439-1, June 1981, pp. IV-2,3.

paid more than \$10,000, and the modal tuition level, paid by 45 percent of private medical school students, was \$6,000 to \$8,000.¹⁴

It appears then, that raising tuitions is probably a feasible option for most public schools. Private schools will find this course less desirable because many already charge high tuitions. Raising tuitions will have two consequences. The first is that some applications will be discouraged. A recent Urban Institute study estimated that a \$1,000 increase in tuitions would deter an average of 120 applications per medical school.¹⁵ Between 1974 and 1980, the total number of applicants dropped by 15 percent. Some of this was due to the 3 percent drop over the same period in the number of college graduates. However, tuitions also increased over this period, by about \$500 after adjusting for inflation. Extrapolating the estimates reported above suggests that tuition increases were responsible for about 3 percent, or one-fifth of the drop in the number of applicants.

The second consequence of higher tuitions is that students would bear a bigger share of the responsibility for financing their educations. Whether this is fair or desirable are questions beyond the scope of this paper.¹⁶ At a minimum, however, medical schools should work to establish an unsubsidized but manageable loan program that will enable medical students to pay for their educations.

If applications continue to fall, either because of increasingly higher tuitions or for other reasons, it is likely that medical schools will reduce

14. Ibid.

15. Ibid., p. VII-2.

16. For further discussion of these issues, see Lee and Carlson, Chapter V, and J. Hadley, ed., Medical Education Financing: Issues and Options for the 1980s (New York: Prodist, 1980).

class sizes.¹⁷ This suggests a second major avenue of response to fiscal pressures, namely, reducing costs. Limiting class size is one way to trim costs. Two other cost-reducing strategies are to reduce faculty-student ratios and limit increases in faculty salaries. For example, between 1965 and 1980, the number of medical students doubled, but the number of faculty tripled. If the number of faculty per student were cut back to its 1975 level, this would reduce expenses for faculty salaries by about \$316 million, almost 6 percent of medical schools' total expenses in 1970-80. Limiting the rate of increase in faculty salaries may seem infeasible at first, but the various trends at work in the health care market will make it an easier goal to achieve over time. The growing supply of physicians, tighter insurance and reimbursement conditions, and growing competition from organized provider groups will all make the private practice of medicine a relatively less rewarding alternative to a faculty appointment than it has been in the past.

A third option is to expand clinical activities. Tighter reimbursement means that professional fee income will be expanded only by attracting more patients and providing more services. The key to this option, as will be discussed in the next section, will be to organize clinical activities more efficiently in order to be able to meet increased market competition.

For teaching hospitals, fiscal pressures will be transmitted through more restrictive Medicaid and Medicare coverage and reimbursements, through leaner budgets at the local government level, and through increased competition from nonteaching hospitals. How hospitals respond to these pressures will depend on the hospital's ownership and mission and where it is located. Many public hospitals, particularly those in urban areas, are committed to treating all

17. T. Hall, "An Empirical Investigation of Medical School's Behavior," unpublished paper, Dept. of Economics, U. of Hawaii, 1978.

patients who need care, regardless of their ability to pay. Private hospitals share this commitment to varying degrees, but have only weak obligations to implement it. As a result, private hospitals that face budget pressures are likely to respond by reducing the volume of free or below-cost care provided and by imposing stricter financial conditions on prospective patients in order to reduce bad debts. There are numerous mechanisms by which such a policy could be carried out—reducing hours of operation for outpatient departments and emergency rooms, closing them outright, requesting some payment in advance, or transferring uninsured patients, once medically stable, to public institutions. In general, most private hospitals can follow a strategy of stretching their budgets by reducing activities that do not generate any revenue, or at least not enough to cover a reasonable portion of their cost. Although actions of this type may seem both crass and venal, they may also be necessary for institutional survival.

Hospitals that maintain a standing commitment to provide care to all will find it much more difficult, on both philosophical and political grounds, to adopt such a strategy. In fact, these institutions, many of which are major teaching hospitals, will face the double bind of having to treat more uninsured and nonpaying patients, but receiving fewer revenues from public sources, especially Medicaid and local government. Traditionally, some amount of free care has been implicitly subsidized through higher charges to charge-paying patients, primarily those covered by commercial insurance or charge-paying Blue Cross plans. As indicated in Table 5, public teaching hospitals derive a relatively small proportion of their revenue from charge-paying patients. Increased competition in the health care market will erode this potential source of internal cross-subsidy even further. First, privately insured groups will be bargaining for "better deals" from hospitals through

preferred provider plans and other fixed or reduced payment schemes. Second, teaching hospitals are likely to face stiffer competition from lower cost, nonteaching hospitals. This competition will be keenest for those people who are covered by charge-paying insurance plans and whose own out-of-pocket liability is directly related to the hospital's charges.

What implications will these trends have for teaching programs? An Urban Institute study has been examining the impact of economic factors on the size of hospitals' graduate medical education programs.¹⁸ By economic factors, we mean residents' stipends, hospitals' revenues (per patient day), and the volume of hospitals' outputs, measured by average daily census and outpatient visits. Teaching program size is measured by the total number of residency positions offered. Our results suggest that other things held constant, increases in revenue per patient day, average daily census, or the volume of outpatient visits would result in more positions offered. However, the magnitudes of the effects are not equal. A 10 percent increase in outpatient visits would lead to about 9 percent more positions offered. A 10 percent increase in either revenue per day or average daily census would increase offers by about 5 percent.

The scenario outlined above implies that private hospitals on average would reduce their patient care loads, particularly in the outpatient area. This strategy will attempt to preserve revenues, so that revenue per day may be unaffected. According to our model, this should create incentives to reduce teaching program size. Teaching hospitals whose mission includes caring for all will face different and conflicting incentives. To the extent that there is patient shifting, especially for outpatient care, these

18. J. Hadley, R. Lee, and C. Carlson, "Teaching Hospitals' Demand for Residents," Urban Institute Working Paper No. 1302-9, 1982. (in progress)

hospitals will be prompted to expand teaching activities. If these hospitals are also confronted by reduced revenues because of lower payments from Medicaid and smaller government appropriations, they will simultaneously encounter fiscal pressure to cut teaching program size.

It is here, I believe, that the crisis in graduate medical education financing will occur. Reimbursement of residents' stipends and other so-called education expenses is the tail of the dog. Its body is the payment for care provided to teaching hospitals' patients. Where that body is disproportionately composed of uninsured and partially insured patients, then the issue of its sustenance and survival will dominate grooming the tail. If new ways of financing that care cannot be developed, then the alternatives are either to reduce the volume of care or its quality to a level consistent with available revenues.

Some Strategies for the Future?

The prognostications of the previous section were premised on the absence of any major structural reforms in how medical care is paid for. One clear consequence of past expansion that perhaps went too far and the current desire to reduce health care spending is that some contraction in both undergraduate and graduate medical education is probably inevitable and perhaps appropriate. Whether the process of change will also lead to a better way of doing things, that is, "less is more," will depend, I believe, on medical schools' and teaching hospitals' willingness to cooperate and to innovate.

The goals to be attained are not new, but remain elusive: maintaining an adequate flow of funds to support quality medical education; providing quality medical care to those who need it; and keeping the costs affordable. This concluding section outlines some possible strategies for doing things differently in the pursuit of these goals.

Community-Based Medical Practice Plans

Professional fee income generated by medical school faculty has become the second most important source of medical schools' revenues. In order to deal with tighter reimbursement policies and increased competition, faculty practice plans should be organized more efficiently and marketed more aggressively. This means active enrollment of capitation and preferred-provider beneficiaries, practicing in off-site facilities with lower overhead rates and more convenient patient access, and restructuring internal incentives for physicians so that they provide care in a more cost conscious fashion. For example a faculty practice plan could experiment with the concept of a primary care case manager, a physician who shares with the patient some of the fiscal responsibility and consequences of specialty referrals and inpatient hospitalizations. Changes of this sort probably mean that some faculty will have to change how they practice. Establishing and implementing such innovations will not be easy, but the alternatives, outright reductions in the number of faculty or establishing a private practice in an overdoctored, highly competitive environment, may be worse.

Community-based practice plans also offer some advantages in addition to revenue generation. They could provide an excellent alternative to the hospital as a place for training both medical students and residents. These settings would probably offer more contacts with primary care medical problems. They would also provide an opportunity to teach cost-conscious medical practice by doing it, rather than by hiring pedants, economic and otherwise, to lecture about it. Finally, the environment would be fully controlled by the medical school's faculty and the medical trainees would not be adjuncts to a practice that is not primarily education oriented.

Broader Local Financial Support for Indigent Care

For teaching hospitals that provide large amounts of charity care or have substantial bad debts, the key issue is how to maintain revenues in the face of shrinking support from Medicaid and direct government appropriations. Although this is predominantly a public teaching hospital problem, it is not exclusively so. Even hospitals that do no teaching, have few bad debts, and provide little charity care cannot ignore the problem of financing care for the medically indigent. In the extreme case, some of these institutions of last resort may be forced to close, but the people they treat will not disappear. Thus all hospitals should have a clear stake in finding a solution.

In the past, hospitals and local governments had looked primarily to Washington to provide fiscal sustenance. The Reagan Administration's policies and philosophy, and the general mood of the country as a whole have turned off the federal spigots. It is also unlikely in the next few years at least that state government will come to the rescue by expanding Medicaid eligibility. If anything, the trend is in the opposite direction.

Hospitals that provide substantial amounts of charity care talk about attracting more privately insured, charge-paying patients as the answer. This too is looking into the past. Increased competition among insurers and patients' greater cost consciousness will continue to induce them to seek care in lower cost institutions. Cost shifting or internal cross-subsidies loaded onto charges may have worked well enough when charity care was distributed fairly evenly among hospitals. When it becomes concentrated in only a few institutions, however then the implicit charity mark up becomes too large for charge-paying patients to bear. Many simply go elsewhere.

What is left then, I believe, is the development of broad-based local solutions to expanding the financial support for indigent care. This means

explicit, cooperative agreements among hospitals and local governments in an area to determine how much money is needed to pay for indigent care, how that money is to be raised, and how its use is to be administered and monitored. Although the problem of health care for the poor is a "national" problem, it is one that is localized in areas that differ in political structure, political philosophy, economic resources, and health care delivery system structure. Because the nature and magnitude of the problem is also likely to vary across areas, the solutions should be permitted to vary as well.

Two examples of local solutions already exist, the state-wide rate setting systems used in Maryland and New Jersey. Although the specific methodologies in the two systems are quite different, both incorporate allowances for bad debts and charity care. Another possible approach is the establishment of area-wide financial pools earmarked to pay for unreimbursed care. Such pools could be supported by contributions from local governments and/or a mandatory tithe on hospitals' net revenues. Hospitals' draws from the pool could be related to the volume of unreimbursed care, while their contributions could be based on the margin of revenues in excess of costs. A third possibility is the establishment of broad hospital districts that span several political jurisdictions, for example, a city and its surrounding towns and counties. The hospital district might function much like a transit district in terms of its ability to appropriate and spend money.

Regardless of the specific approach developed, it is essential that strict financial monitoring and controls be included. It is in this area that local approaches are probably more workable than a national system. Using local money to underwrite a substantial share of the cost of locally-provided care for the indigent increases the odds that effective oversight mechanisms will be developed, through either the political process or private

management. Hospitals and/or local governments that contribute to such a pool have an obvious stake in insuring that its funds are spent efficiently and prudently. Teaching hospitals and medical schools, because of both their prestige in the medical community and their potential dependence on such funds, should lead efforts to develop broader local financial support for health care for the poor.

Prospective, Patient-Based Reimbursement

In exchange for any broadening of the financial support for hospital care, the hospital industry in general and teaching hospitals in particular, because they appear to be so much more expensive than other hospitals, need to give serious consideration to means of reducing the inflation in hospital expenditures. There are many possible approaches, ranging from the American Hospital Association's Voluntary Effort to the Carter Administration's proposed Hospital Cost Containment legislation. My feeling is that the best approach from teaching hospitals' perspective is a prospective, patient-based reimbursement system. In other words, a system in which the amount paid for a patient's care is 1) determined and known in advance and 2) based on the cost of treating patients of similar diagnosis, complexity, age, sex, and any other factors thought to be relevant. Probably the best known method of this type is the one used by the state of New Jersey, which pays hospitals on the basis of Diagnosis Related Groups.¹⁹ This is not the only approach one could use, nor is it necessarily the best. Its key feature from the insurer's point of view is that the payment is fixed in advance and, because it is fixed in

19. N. Worthington, J. Cromwell, G. Kamens, and J. Kanak, "Case Study of Prospective Reimbursement in New Jersey." Health Care Financing Grants and Contracts Report, HCFA Pub. No. 80-03034 (Baltimore: HCFA, April 1980).

advance, it creates incentives for providers to be cost conscious in choosing treatment regimens.

The key feature from the hospital's point of view is that it receives a higher payment for treating more difficult cases. Thus, hospitals which treat a more complex case mix of patients and incur higher costs for this reason should receive higher payments than hospitals that treat a less complex, more routine case mix. At the same time, however, a patient who requires only routine care, for example, a normal delivery by a woman not in a high risk group, but goes to an "expensive" hospital would be billed at a rate consistent with the cost of providing routine care, not the cost of care averaged over the hospital's entire, more complex case mix. This feature of a patient-based reimbursement system is critical in a competitive health care market that retains significant patient cost sharing, deductibles and or coinsurance. Under this system, high-cost teaching hospitals would face less of a competitive disadvantage in seeking to attract patients who do not require sophisticated, state-of-art care.

The mechanics of setting up such a system are obviously not trivial. However, it would be an insult to the hospital management industry to claim that it could not be done. Probably more difficult are the political decisions that trade some hospitals gains for other hospitals' losses. Here again there is a clear role for educational institutions to play a visible leadership role.

Restructured Hospital Insurance

How hospitals are paid is only one side of the hospital insurance coin. The other is how responsibility for that payment is split between patients and insurers. As noted above, patient cost sharing is likely to become more, not less prevalent. Under these conditions, one clear consequence of a patient-

based reimbursement system is that sicker patients will face higher charges and higher cost-sharing obligations. This would undermine some of the risk-spreading aspects of the insurance concept.

In order to avoid what might appear to be a "punitive" reimbursement system, hospitals should lobby for and work towards a universal catastrophic insurance system that places an upper limit on any individual's or family's out-of-pocket liability for medical care. Ideally, this limit would be related to income, since a specified dollar limit would be much more burdensome to the poor than to others. Again, teaching hospitals and medical schools have an obvious interest in this type of insurance structure, since they are more likely to treat the higher cost, more complex cases.

How can this type of insurance be financed?²⁰ One obvious approach that could be used is to trade current first-dollar coverage, that is, low deductibles and low coinsurance rates, for coverage that protected against catastrophic expenses. Premium dollars saved by thinning out first-dollar coverage could then be used to finance catastrophic coverage. It has been argued that this approach is penny wise and pound foolish because cost sharing defers needed care for conditions that ultimately become more expensive to treat than if they had been caught earlier. This is not a trivial contention and careful analysis is required to try to settle the issue.

A Concluding Comment

Papers of this type are risky ventures, since much of what is said is predicated on events that have not yet occurred. I hope, though, that my remarks will stimulate some additional reconsideration of existing financing

20. For more detailed discussions of broad health insurance issues see J. Feder, J. Hadley, and J. Holahan, Insuring the Nation's Health: Market Competition, Catastrophic and Comprehensive Approaches. Washington, D.C.: The Urban Institute Press, 1981.

arrangements. In making these reassessments, however, one should remember the sage advice of an old dragon. "But as a matter of fact, it is extremely rash to extend conclusions derived from observation far beyond the scale of magnitude to which the observation was confined."²¹

21. John Gardner, Grendel (New York: Knopf, 1971).

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